

## **REMARKS**

### **Status of the Claims**

Upon entry of the present amendment, claims 1 and 4-7 will remain pending in the above-identified application, with claims 1 and 7 standing ready for further action on the merits, and remaining claim 4-6 being withdrawn from consideration based on an earlier restriction requirement of the Examiner. Claim 1 has been amended based on claim 3 and the disclosures at page 7, lines 6-7 and page 8, lines 2 of the specification. Claims 2 and 3 have been cancelled without prejudice or disclaimer of the subject matter contained therein. Claim 4 has been amended by incorporating the limitations as recited in original claim 1.

Accordingly, the present amendments to the claims do not introduce new matter into the application as originally filed. As such entry of the instant amendment and favorable action on the merits are earnestly solicited at present.

### **Specification Objection**

The Examiner has objected to the specification because of several informalities. In order to overcome this objection, Applicants have amended the specification in order to correct the deficiencies pointed out by the Examiner. The present amendments to the specification do not introduce new matter into the application as originally filed.

Reconsideration and withdrawal of this objection are respectfully requested based on the amendments made to the specification.

### **Claim Objections**

The Examiner has objected to claim 3 because of informalities. Claim 3 has been cancelled in this response. Thus, the objection has been overcome.

### **Claim Rejections Under 35 U.S.C. §§ 102 and 103**

Claims 1-2 and 7 are rejected under 35 U.S.C. § 102(b) as being anticipated by Jordan et al. US '267 (US 5,779,267). Further, claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Jordan et al. US '267.

Applicants respectfully traverse and request that the Examiner withdraw the rejections based on the following considerations.

#### **Distinctions and Nonobviousness over the Cited Reference**

As recited in amended claim 1, the claimed invention is directed to a filter for a gas generator, comprising a tubular material formed by winding a coated metal wire comprising a core wire of iron and a coating of copper disposed on the core wire, wherein thickness of the coating on the core wire is from 0.5  $\mu$ m to 10  $\mu$ m, and the intersecting parts of the coated metal wires are bonded by the affixing and solidifying of the molten copper (emphasis added).

In short, in the claimed filter for a gas generator, i) a tubular material formed by winding a coated metal wire is employed, ii) the coated metal wire has a core wire of iron and a coating of copper, iii) the coating has the claimed thickness (0.5-10  $\mu$ m), and iv) the intersecting parts of the coated metal wires are bonded by the affixing and solidifying of the molten copper.

However, Jordan et al. US '267 fails to disclose or suggest these claimed features. First, in the present invention, the intersecting parts of the coated metal wires are fixed by using

(molten) metal (*i.e.*, copper); thereby the ability of retention of the shape of the filter is improved. On the other hand, the intersecting parts of Jordan et al. US '267 are not fixed. Thus, Jordan et al. US '267 fails to disclose or suggest the claimed structure.

In this reply, the claimed invention is amended by reciting that the core wire is iron, the coating is copper, and the thickness of the coating. Copper hardly forms alloy with iron because an affinity between copper and iron is relatively low. The molten copper easily covers and fixes the intersecting parts of the coated metal wires. Further, since copper (coating) does not form alloy with iron (core wire), the melting point thereof is not lowered. Consequently, the present invention attains advantageous properties (*e.g.*, strength of the filter), which is not expected from Jordan et al. US '267.

Next, in the present invention, a tubular material formed by winding a coated metal wire is employed, whereas in the filter of Jordan et al. US '267, a filter obtained by "knitting or weaving" is employed. Thus, the claimed filter has a different structure from the filter of Jordan et al. US '267 in shape and properties (*e.g.*, improved ability of retention of shape).

The filter of the claimed invention is obtained by "winding" (*e.g.*, by winding the iron wire plated with copper around a tubular core wire). For example, the claimed filter has appearance similar to a filter as shown in Fig. A (which is reproduced from Fig. 1 of JP-A No.2001-171472, which is not cited in the Office Action but submitted in IDS of October 22, 2010) (see attachment). A body is formed by layering a linear iron wire plated with copper many times. In this structure, the layers wound many times are adhered and fixed to each other. Thus obtained filter is not easily deformed by inner pressure initiated by activation of an inflator (see Fig. B, which is a top view of the filter of Fig. A, attached hereto).

Incidentally, for example, the woven or knitted steel wire of Jordan et al. US '267 should be formed into a cylindrical configuration and then compress-molded, as shown in Figs. 4-6 of US 5,849,054 (which is not cited in the Office Action but submitted in IDS of August 13, 2010). The filter is formed by randomly compressing an intermediate having a structure as shown in Fig. 4 of US 5,849,054. Such a filter is easily deformed with the inner pressure upon activation of an inflator. US 5,849,054 factually discloses that a filter obtained from a knitted wire needs an outer protection cylinder to retain the shape (see column 4, lines 60 to 64).

Finally, Jordan et al. US '267 fails to disclose or suggest the claimed thickness of the copper coating of the coated metal wires (*i.e.*, 0.5-10  $\mu\text{m}$ ). When the coating layer is thicker, the amount of copper melting at the time of activation of the inflator is increased. That may cause the molten copper to be ejected out of the inflator due to the inner pressure caused by the activation, which may break cloth of an air bag and deteriorate development of the air bag.

On the other hand, according to the claimed thickness of the copper coating, the inconvenience can be effectively avoided.

As explained above, Jordan et al. US '267 fails to disclose or suggest the claimed features. Thus, the claimed invention is not anticipated by Jordan et al. US '267. Also, a *prima facie* case of obviousness cannot be established based on Jordan et al. US '267 alone. Likewise, there is not provided any rationale and/or reasonable expectation of success based on the combination of the cited reference, by which one skilled in the art could arrive at the present invention as claimed, since the cited reference fails to disclose or suggest each of the instantly claimed features, as explained above. Thus, it is submitted that the present invention is not obvious over Jordan et al. US '267 alone.

Based on the foregoing considerations, Applicants respectfully request that the Examiner withdraw the rejection.

**Conclusion**

Based upon the amendments and remarks presented herein, the Examiner is respectfully requested to issue a Notice of Allowance clearly indicating that each of the pending claims is allowed.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Toyohiko Konno, Reg. No. L0053 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Director is hereby authorized to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

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Respectfully submitted,

By 

Charles Gorenstein

Registration No.: 29271

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Road, Suite 100 East

P.O. Box 747

Falls Church, VA 22040-0747

703-205-8000

Attachment: Figs. A and B